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UNION OF DIVIDED FINGERS.

[Communicated for the Boston Medical and Surgical Journal.]

I HAVE sometimes succeeded in establishing the union of divided fingers under circumstances so apparently unpromising, as to induce the belief that the deformity caused by the partial loss of these members may often be prevented. If the cut be clean, oblique, and near the extremity of the finger, and adaptation of the surfaces be timely made and accurately maintained, I think, as a general thing, success will follow. In corroboration of this opinion, I offer the following facts.

A young man accidentally divided the fore finger obliquely through the third phalanx. The cut was smooth, and the day being cold there was little bleeding, although the patient walked half a mile. I regretted that he had not brought the separated fragment, whereupon he produced it from his pocket. It had been struck off full thirty minutes, and was cold and bloodless. I immediately adjusted the incised surfaces and applied the necessary dressings. On the fifth day, union by first intention was established, although subsequently the nail separated.

The sequel of this injury was deplorable. The young man returned to his occupation at the expiration of three weeks, and soon after, as he supposed, took cold in the throat, which pretty nearly prevented motion of the lower jaw. He, however, paid no attention to it for several days, until he became much worse, and then I was called to see him, and found him laboring under a seizure of tetanus. He was in great pain in the epigastric region, with violent spasms in the back and neck, and his face presented the expression peculiar to the sustained contraction of its muscles, the sardonic laugh. His mind was anxious but depressed, his respiration at times painful and difficult, and the circulation feeble, rapid and tremulous. In spite of all remedial measures, the spasms became more general and severe, and his sufferings were very great until the seventh day from the attack, when in the act of swallowing he was seized with violent spasms in the throat and suddenly expired.

In another instance, a young man struck off two of his fingers by a straw cutter, and I was sent for to dress the wounds. I inquired for the amputated fragments, and found they had received no attention whatever; but search was made, and they were soon produced. The direction of the incisions was obliquely through the third phalanges. The truncated

portions were immersed in warm water and accurately applied, and upon the subsequent dressing it was found that union had taken place in one by first intention, and in the other the integuments were gangrenous.

In this case the period of separation was at least thirty minutes; but the chance of success will be in proportion to the speedy adaptation of the incised surfaces.

A similar case is reported by A. Graham, Esq. A joiner cut through the index finger of the left hand, between the first and second phalanges. He immediately walked a few yards to a place where Mr. Graham happened to be, when adaptation was made by sutures and adhesive straps, and complete union followed.

A case is related in Johnson's Journal for 1834, of a medical student who accidentally divided the last phalanx of the left fore finger, which was immediately replaced and secured by proper dressings, and union produced. This happened in Italy; and Dr. Angello della Cella exultingly invites M. Richerand and his followers to cross the Alps and pay him a visit upon the banks of the Entella, and see with their own eyes, and try to believe, they having ridiculed the doctrines of Tagliacozzi as unworthy of credit.

Liston, in his fifth Lecture, makes some observations on the re-union of divided surfaces. He says the native rulers in India inflicted punishment upon a certain caste by cutting off the nose, and that the natives were in the habit after a time of picking up the detached part and clapping it on again, and that it often stuck. After that, they were thrown into hot ovens and baked. Even in colder climes, he says, and in less favorable subjects, adhesions will sometimes take place in parts that are completely separated from the body. In this country many fingers have been cut off and put on again. There is a story told to the following effect by Garingeot, which may be familiar to some of you:—In a quarrel, a man bit off the nose of his antagonist. He picked it up and threw it into an apothecary's shop; and having beaten his opponent soundly he returned to the apothecary, who put it on and there it grew.

Greenfield, May, 1853. JAMES DEANE.

RAIL ROAD ACCIDENTS.

BY EDW. WARREN, M.D.

[Communicated for the Boston Medical and Surgical Journal.]

THE recent disaster at Norwalk, by which so many valuable members of our profession have been destroyed, and from which so many more have escaped only by the intervention of a benevolent providence, seems to render some remarks upon disasters of this nature justifiable, if not strictly belonging to a medical journal. It is the highest duty of the medical man, to save life, and prevent injury to life and limb, by every means in his power. Indeed, a cool, disinterested observer might form the opinion, that to our profession, alone, it is left to feel for disasters of the character in question. Had we, what we have always boasted of in this country, a free and untrammelled daily press, the remarks I wish to

make might more appropriately be expressed in that. But if that is under the iron influence of rail-road companies, I hope at least that the medical press may continue, as it has always been, free.

When an accident happened upon a branch of one of our leading rail roads, a year since, a talented writer—the author of Zenobia and Probus—who with his youngest son had often unsuspiciously incurred the danger, which proved fatal in the case referred to, wrote an article on the subject of this and similar accidents; and will it be believed, he could find no newspaper that would publish it. At this same time, Dr. M., of Boston, sent to a respectable daily paper a notice of the accident and of the causes that led to it. His bare statement of the accident was published, docked and curtailed of everything that could imply a censure upon the company. Some other writer, I know not who, was fortunate in obtaining admission in the Traveller. He drew down the thunders of the president or superintendent upon his head, for calling the place "a trap." So the trap still remains set. Another terrible accident having occurred within a week after this, I prepared, by permission, an article for a religious periodical, upon the express condition that I should imply no censure against directors. It was not my intention to do so. I regard the directors as servants of the proprietors; and it is not until proprietors, and every one who owns a share in a rail road, can be properly impressed with their responsibility, that accidents will be prevented.

A distinguished clergyman of Boston, I understand, has, in relation to the late accident, preached from the text—"Thou shalt do no murder." But if murder has been done, who are the murderers? This is a solemn question to put to the community. Who is the principal? *Qui facit per alium facit per se.* The deed of the agent is the deed of the employer. It is unfair in all these cases to place the blame upon fireman, engineman, conductor or directors. It is not until it can be impressed upon the mind of every stockholder in a rail road, that he is actually guilty of murder, if he does not exert his voice, his vote, and, if a writer, his pen, to prevent the destruction of human life, however valueless to the community, that these disasters can be prevented.

If I were to find a drunken man in the road, and knock out his brains, should I, or should I not, be indictable for murder? If a rail-road company find a drunken man upon their track, and run over him, coroner's jury and the daily papers all pronounce that he comes to his death by his own fault. If a heap of ashes or a pile of snow is left in a country road, and a gentleman rides over it and demolishes his gig, a jury will give him heavy damages. I speak seriously, and I have ample proof of what I say.

Rail-road accidents have become so frequent, and so little interest on common occasions is excited, that when we hear that a man is run over on a rail-road track, it attracts as little interest as if it was a kitten. Yet every one who speaks lightly of such accidents; every editor who slurs them over, or apologizes for them, is an abettor to the deed, at least an accessory after the fact. It is the light manner in which accidents are passed over that affect one or two lives, with their immediate

circle of friends, that is the remote cause of such disasters as that at Norwalk. If we could be brought into the palace of truth, and compelled to declare the fact, we must say that it is the shareholders in all rail roads that are the murderers; and the whole community accessories.

Nothing effectual can or will be done by our legislatures. They will meet and talk; rail-road directors will meet and talk, and perhaps eat a dinner at the expense of the company, the cost of which might save many lives; but nothing will be done until it is fully impressed upon the stockholders that each and every one of them is accountable for every death that has occurred or does occur. One has given one hundred dollars, another one thousand, another ten thousand, but each and every one has paid his share towards the murder. Each one is a principal, so long as he does not attend the meetings either in person or by proxy, and do his utmost to prevent these single or wholesale homicides.

A daily paper is rather indignant that a legislator is supposed to have contemplated a law that each company should pay ten thousand dollars for every man they killed by negligence. But let such a measure be carried into effect, with the approbation of the community; still better, let there be a definite sum to be paid for every man they killed (negligence or no negligence), and rail-road accidents would cease.

Rail roads might be hermetically sealed against trespassers; a man might always be kept upon the look-out, in front of the train, who should never leave his post, or gossip with passengers or employees. The cost might be somewhat greater to the proprietors; but perhaps if they attended meetings and examined accounts, they might find means to prevent a diminution of their dividends. Rail-road directors are, like those whom Mark Antony speaks of, "*all honorable men*"; and I have no idea of disparaging them. But I believe they are rather employed to make money for the stockholders, than to save human life. Would that the associations for the abolition of capital punishment, and the temperance societies, would turn their attention to rail-road reform. Every daily paper teaches us that walking on rail roads is a capital crime.

Under the present system, who, I would solemnly ask, are responsible for rail-way accidents? The conductor is busied in taking tickets, entertaining the ladies, and attending to the children under his charge. The engineman or driver is employed with his engine, the fireman in keeping up his fire, and the brakemen at their brakes; each have enough to do. Were a man to be kept upon the watch, and the engineman and conductor compelled to stop the train on the appearance of an obstacle, if it were only a deaf man, or a drunken man, or a private individual of any kind, even at the risk of injuring the engine, many accidents might be prevented.

But recklessness in one point, leads to recklessness in another. Those who abet and apologize for a single homicide, encourage the feeling which leads to a wholesale one.

I had hoped that a paper, in a religious periodical of high standing and influence, might make some impression upon a portion, at least, of those whom I regard as principals—the rail-road stockholders. My

paper was rejected, on the ground that *the editors could feel no interest in the subject*, and they thought that their readers would feel none. I presume that they were right, and it is to this indifference in the public that we owe the loss of so many valuable lives.

We boast that increased civilization has taught us to value human life more highly. I doubt whether there prevailed, in Greece or Rome, a recklessness which equals ours. I doubt whether the Goth or Vandal would have tolerated that destruction which with us has become almost a matter of course.

The Norwalk disaster has sufficiently aroused the feelings of the community for the time. Wide numbers, who might have felt indifference had they been themselves exposed, have had their feelings roused to the utmost by the loss or danger of their friends; and now should be the time for action.

I would repeat it, every stockholder, every rail-road director, every editor, who does not exert himself to prevent the recurrence of such accidents; every one who slurs over or conceals facts; every coroner's jury who gives too lenient a verdict; every one who prefers money to human life, is an accessory to the murder.

Newton Lower Falls, May, 1853.

SOURCES OF VITALITY IN THE TEETH—REMOVAL OF THE DENTAL PULP NOT "IMPRACTICABLE"—RHIZODONTRYPO-NEURHÆMAXIS.

[Communicated for the Boston Medical and Surgical Journal.]

From the earliest efforts of the human mind to examine the relations of cause and effect—to investigate the phenomena of nature, or produce practical results from philosophic reasoning, it has ever been active in the pursuit of knowledge. Prone to investigate, it has, not infrequently, indulged in theories and speculations, some of which, although they have not fully realized the expectations created, yet have contributed, in some degree, to that perfection in the arts and sciences which distinguishes the present from the past. It is by degrees, and through difficulties, that our present position in scientific knowledge has been attained; and, as science progresses, still greater mysteries will be solved—seemingly "conflicting principles" explained—unexplored regions penetrated, and many of its treasures, *now* veiled in obscurity, fully developed.

Every age has produced important discoveries and inventions, and every era has had its sceptics. In astronomy, the Copernican system was violently assailed, at different periods, and denounced as a doctrine contravening the word of God; the teaching of which brought down the horrors of the inquisition upon Galileo and others who dared promulgate it. The discovery of the circulation of the blood by Harvey met with bitter opposition from some of the most eminent medical men of his time. And the theory of inoculation for the smallpox was attacked by the ablest writers of the day. So great was the hostility to it, that the clergy were called upon to preach against it and pro-

nounced it "a usurpation of the sacred prerogative of God." They declared the practice "a diabolical operation and anti-providential project that insults our religion and banishes Providence out of the world" —an operation originated by the *devil* and *first* practised upon *Job*." The discovery of vaccination, at a later period, by Jenner, incurred a similar displeasure, although less violent, perhaps, and of shorter duration, owing to the improved intelligence of the age in which he lived; but which arose from the same cause—ignorance and superstition. In our own time, when it was first announced that the inhalation of the nitrous oxide, or "laughing gas," or breathing the vapors of ether and chloroform, would paralyze the intellectual functions and suspend sensation and voluntary motion during a severe and protracted surgical operation, the *fact* was doubted and denied, by many, for want of knowledge that these agents had the power to produce such effects. And yet, all these theories and discoveries, with many others that might be cited, are now well established and matters of record in medical history.

There appeared in Vol. XLVIII., No. 1 (Feb. 2d), of this Journal, an article on "Impracticable Theories," by M. M. Frisselle, M.D., in which the writer called in question certain theories, systems of practice, &c., and among them, the "new operation on the teeth." It is not my purpose, in connection with this subject, to discuss the comparative merits of the various systems of medical practice, as each is based upon a distinct theory, and has its supporters who will look after its special interests. Nor do I claim that my experiments on the dental nerves, and the result in which they terminated, detailed in the Journal for October 20, 1852, equal in importance or admit of comparison with the subjects referred to; or that they have excited hostility, or particular interest, in the medical profession *generally*;* but my object is to show that discoveries, theories, &c., by far transcending mine in their results to mankind, which have been subjects of ridicule and scepticism, and those who originated or tolerated them, in some instances the victims, not only of virulent opposition, but of *religious intolerance*, have proved the basis of many a beautiful and enduring superstructure. Hence it is unwise to call this or that theory impracticable, simply because it has not gained the popular voice and been universally acknowledged, without offering sufficient proof to refute it. The folly of such a course has been forcibly shown by the history of the past, especially in the subjects alluded to. Not more unwise is that class of experimenters who "first form an opinion, and then labor to make their experiments prove their opinions correct." Dr. Frisselle says, "No man, from a limited number of experiments, or cases that may have come under his observation, can sit down and draw out a theory—ingenious though it may be, and plausible, but mingled as theories usually are, with conjectures, certainties and suppositions—without being liable to be called upon to enlighten the public

* The subject of the experiments referred to has not met with *universal* favor, either among physicians or dentists, for want of due consideration. Not long since, in conversation with a medical friend, who is also a dentist of high reputation, notwithstanding he was assured of the success of the operation, he utterly denied the possibility of performing it, saying—"it cannot be done." There is, however, a rapidly-increasing opinion in its favor, derived from experience, by those who have adopted it.

and the profession, relative to what seems to them conflicting principles." This passage being an implied call for an explanation relative to what seems to the doctor "conflicting principles," other extracts will be cited and commented upon by way of illustration.

"A limited number of experiments, or cases," &c. If a physician should treat nearly three hundred cases of fever, or *any* specific disease, involving danger, or perform an equal number of surgical operations, and all for a similar purpose, within the space of two and a half years, and lose but *one* patient, and either *cure* or *greatly benefit* a large majority of the remainder, would he not be apt to come to the "grand conclusion" that the theory, upon which his practice was based, was not "impracticable"? It would seem so; and that he might "sit down and draw out a theory based upon and well built up by facts." "In order to judge correctly of any question or practice, the evils as well as the benefits growing out of it should be considered." The comparative success which the treatment has met with in my hands, has been stated in a previous number, and, I may add, several dentists to whom I communicated the results of my experiments, more than two years ago, have adopted it in their practice, and report favorably, without, as yet, having encountered evils sufficient to induce them to abandon it. One of them (Dr. Flagg), whose medical attainments and large experience in dental practice enable him thoroughly to understand the physiology and pathology of the dental organs, and to compare the new treatment with other methods that have preceded it, in a letter to me says—"You spoke with a degree of confidence which induced me to adopt the treatment, and the results encourage me to continue it." And this is the universal testimony of all who have practised it to any considerable extent, within my knowledge.

"The advocates of the new operation, claim, I believe," says Dr. F., "that the surgeon is enabled to plug the carious tooth when the dental pulp is exposed, without pain, and preserve the vitality of the tooth." As one of the "advocates," I have carefully avoided saying that any part of the operation, preparatory to the introduction of the filling, can be done without pain, although it is less painful than is generally supposed; on the contrary, I have expressly stated that the division of the nerve and removal of the pulp in the few cases in which either or both operations have been done, consumed more time and were *more painful* than when the nerve was merely punctured; therefore, for *general practice*, these operations were given up within a few weeks after my first experiment.

Again, Dr. F. says—"I do not quite understand how the nerves and bloodvessels can be severed, and, as in some cases stated, the dental pulp removed, without destroying the vitality of the organ. It has always been my impression that when the circulation of the nervous communication is cut off from an organ, it immediately loses its vitality, and nature soon makes effort to remove it. I cannot see why the same rule does not apply to the teeth. So far as my observation goes, it does; for when the vitality of a tooth is destroyed, nature makes effort to rid herself of it, and will do so, sooner or later, either by ulceration taking

place around the fang, or by absorption." From this extract the writer is of opinion, if I rightly understand him, that the principle of vitality in a tooth resides in its central ganglion *only*—that it has no *other* source, and when *that* is cut off, it "*immediately* loses its vitality, and nature soon makes effort to remove it." If such be the case, as a general rule, in common with others, and among them the ablest of the profession, I must confess to having been engaged, for nearly twenty years, in a practice founded on an "impracticable theory," indeed. It is admitted that whenever the circulation of the nervous communication is *wholly* cut off from an organ, it loses its vitality, but the destruction of a dental nerve deprives the tooth of a *portion* of its vitality *only*, as will be shown hereafter. Allowing, for the argument, that nature *does* make effort to remove a tooth after its inner membrane has been destroyed, shall nothing be done to save the organ and prolong its usefulness a few years? Is it the custom, and does it comport with the duties of the physician and the obligations of humanity, to suspend treatment because the patient is to be removed by death, "sooner or later"? If so, why do the promptings of the human heart resort to consultation—to this or that measure, except on the ground that "effort" is often successful?

And not only this, but unremitted exertion is often continued from *hope*, after it has become a "fixed fact" that the patient cannot long survive. The cases are parallel, and to be treated on the same general principles. The structure of the teeth differs, somewhat, from that of other bones; hence, a corresponding difference in their functions, diseases, and the means of cure. Observation teaches that the loss of teeth is often occasioned by the gradual absorption of the gum, alveolus, and periosteum, which deprives them of their external support, notwithstanding the nerve remain alive until the absorbents have nearly finished their work; therefore, nature does not wait for the nerve to be destroyed, or, as Dr. Frisselle would have it, the "circulation of the nervous communication to be cut off," before she commences a removal of the organ. A tissue may have vitality, and yet possess little sensibility. Uninflamed bone, cartilage and tendon, are examples; but when their sensibility becomes exalted, they are highly sensitive. Although the removal of the central ganglion deprives the tooth of its interior source of vitality, and lessens its sensibility to impressions from heat and cold, it does not deprive it of its exterior, or that support which it receives through the medium of its investing membrane; for if it does, the almost universal practice of trying to save such teeth, and the ably written articles on the treatment of the dental pulp, show that the dental profession have labored, for a long time, without reasonable hope of success, and are a stupid set of fellows for not knowing it until Dr. F. made the discovery. Individuals, otherwise well informed, are often to be found, whose notions respecting the vitality of the teeth are based on the idea that it is *entirely* dependent on the nerve and bloodvessels comprising the pulp. To show that such notions are incorrect, Thomas Bell, an eminent English writer on the "Anatomy, Physiology, and Diseases of the Teeth," in speaking of their organization, says—"The

fang is covered by a periosteum, and the internal cavity is lined by a highly nervous and vascular membrane; both of these are intimately connected with the bony structure of the tooth. Now, unless we suppose that these membranes are the media by which vessels and nerves are sent to the bony substance of the tooth, and by which, in fact, its vitality is supported, and its connection with the general system preserved, it will be impossible to assign any purpose which can be answered by their existence. The presence of a nervous and vascular connection between these membranes and the tooth, will appear the more probable, when it is considered that the adhesion between these parts is so strong as to require a slight degree of force to remove them; which can only be accounted for by the presence of numerous vessels, &c., passing from the one to the other. We are, therefore, justified, I think, in considering this connection as identical with that which exists between the bones and their periosteum."

[To be concluded next week.]

MICROSCOPIC PREPARATIONS.

To the Editor of the Boston Medical and Surgical Journal.

I SEND you a page or two relating to microscopic matters, which some of the students who read your Journal may like to see, if you can find room for so much in any of your coming numbers.

Yours very truly, O. W. HOLMES.

Many of the readers of this Journal, and especially many of its younger readers, are interested in the microscope in its application to anatomy, physiology and pathology. Most of the young physicians who complete their studies in Europe bring home a "Nachet" or an "Oberhaeuser," and a certain amount of skill in handling it, which they find abundant leisure to improve in the early times of their practice. There are now many good instruments among us in the hands of those who know how to use them, and several of the highest excellence. Our microscopists are beginning to be known somewhat beyond their own immediate circle. Dr. Dalton and Dr. Burnett have been honored by two of the four prizes conferred by the American Medical Association, for essays based in great part or wholly on microscopic investigations. Other observers are at work, who will be heard from in due season.

In the mean time attention has been drawn in this country to the art of making the instruments upon which so many departments of medical science are more or less dependent. Mr. Spencer's labors and triumphs are well known. It is not so generally understood that excellent lenses have been made in this city. Mr. Alvan Clark, distinguished as an artist and as a maker of astronomical instruments, has employed his leisure, occasionally, in making objectives, several of which I have seen and found to compare very favorably with the best of the imported glasses of similar power. There has been little done as yet, however,

in the way of providing the microscopist with those numerous accessories which he is constantly requiring, and which in London or Paris he can readily obtain. To get *very thin* glass, one must hunt up in New York the American agency of Messrs. Chance, of Birmingham, which is to be found in an obscure warehouse remote from the common markets of scientific commodities. As for a set of delicate tests, it is doubtful if they can be had without importing them expressly. Some of Hett's and Topping's injected preparations may be had in New York, but only such as have been left after careful culling by others.

We shall have to find out that we can make many of these things for ourselves, which we are in the habit of importing; *all* of them, as soon as it will pay to make them. It would not be surprising to find, in ten years from this time, that there were more microscopists in America than in Europe. For here everybody must know something of everything; and as a microscope is *prima facie* evidence that the owner is a microscopist, it will become as necessary a part of the stock in trade as a stethoscope; which implies that the owner is a stethoscopist —even if he does not know which end to put to his ear, as once happened in a consultation in this region. Thus there will be growing up among us a market for microscopes and all that belongs to microscopic art, and the skill which has never failed to show itself whenever it has been called for, will find a new channel in providing for this want.

The art of *minute injection* has been until of late very little practised in this country. Dr. Horner's preparations in the Wistar Museum are among the most successful examples of it. The application of the achromatic microscope to the study of the tissues has given a fresh impulse to this branch of anatomical art, and many beautiful results have been obtained; such as we can hardly believe that Ruysch or Lieberkuhn can have approached, by what we know of their performances. Many of the injections of Berres and others are figured in the work of Gerber; Hassall gives figures of those of several of the English anatomists; Dr. Neill, of Philadelphia, has given very beautiful representations of some of his own injections of the mucous membrane of the stomach. From these plates, those who have not access to the original preparations may form some idea of their delicacy and brilliancy.

Preparations of this kind, properly put up in preservative fluid, are of very great importance, especially to the teacher of microscopic art and science. It is in this capacity that I have had occasion to employ many such preparations, of some of which a few remarks will be here made.

The first I used were some made by or under the direction of Retzius of Stockholm, lent me by Dr. Ware. One of these, an injection of the lobules of the liver, is a very beautiful exhibition of the two veins and the duct filled with different kinds of injections. They are put up in a somewhat rough way between two thick plates of glass.

The preparations of Mr. Hett, some of which were selected by Mr. Burnett in London, and others purchased of the importer, are put up with great neatness, and on the whole the most brilliant specimens of minute injection of all those mentioned. They become infested

with air-bubbles in the course of a year or two, which will in time require them to be taken out and the cells re-filled with fluid.

Those of Mr. Topping are injected in many cases with yellow instead of red, which makes them somewhat less showy than the others. They are, however, well filled and neatly mounted.

I have received from Dr. John Neill, of Philadelphia, specimens prepared by himself, the last received very perfect; the colored figures before referred to, which may be found in the American Journal of Medical Sciences for Jan., 1851, show the delicacy of the injection and the use of such preparations in bringing out the nicer points of structure.

We have in this city a microscopist who has devoted himself with great assiduity and success to preparing and mounting specimens, many of which are injected by him with great nicety. Dr. Durkee, the gentleman referred to, has been his own instructor, and has succeeded, after many trials, in acquiring to a great extent the skill which is almost confined to a few persons abroad who make a business of preparing objects for microscopists. I will mention a few of these which I have seen, to give an idea of the points which they illustrate. Several of these which Dr. Durkee had the kindness to give me, I have used with much satisfaction in my demonstrations.

1. Fœtal stomach, near cardiac orifice. A perfect injection, showing ridges, areolæ, but no villi.

2. Skin of the back of the hand, showing vascular net-work.

3. Mucous membrane of gall-bladder, finely injected, showing ridges, running into villi.

4. Membrana tympani injected, showing a non-vascular spot about the attachment of the handle of the malleus.

5. Malpighian corpuscles of the kidney in the human subject and in the ox, beautifully shown.

6. Tongue, showing the filiform papillæ, finely injected.

I have selected these as among the most successful preparations, but there are many others of much interest. Among the rest I should not forget the sections of bone, which Dr. Durkee has the art of making in a very superior way. I have made hundreds of them, and seen a great many made in this country and in Europe, but never saw more than one specimen equal to the best made by Dr. Durkee.

The injected preparations made in this country are apt to be inferior in color to the imported ones. The vermilion is not equal in brilliancy to that used by Mr. Hett. Once in a while it is found to contain specks which take off a little from the beauty of the specimen containing them. But it is evident that we are in the way of learning to do for ourselves what others have done for us, and there can be no doubt that the slight difficulties which stand in the way of absolute perfection will be overcome as the principal ones have already been. It was said at the beginning of this communication, that the young practitioner had *time enough* to improve his knowledge of the microscope in his early years of practice. There are many hours which he must pass in his office, quite undisturbed, in company with his books and his thoughts. Let him add a microscope as a companion to these, and time will be

wonderfully lightened for him, while he is acquiring the knowledge he will be very glad of in the busy years that are coming.

The microscope is of all philosophical instruments the most unfailing and untiring companion. The astronomer tells us that hardly more than a dozen nights in the year are adapted to his observations. He must watch all night, exposed to cold and damp, surrounded by costly and cumbrous machinery. The microscopist sits down at his fireside or his window, with a little instrument before him, a mere toy to look at—a giant mightier than the slave of the lamp or the ring in its power of transformation. All that he wishes to observe upon, nature is ready to furnish him. Nothing is too precious or rare for him to covet; he wishes but a mere speck, a particle, such as the koh-i-noor could spare him. Nothing is repulsive, examined in its infinitesimal shape. The disease which infected the wards of a hospital does not betray itself in the narrow apartment where he studies all its intimate details. He may study and work until *practice* comes and takes him off his feet and floats him away into a world of other cares and duties, and year after year, every day will bring him something new to examine. I will say nothing of the utility, even the necessity of the microscope to the practical physician and the surgeon. As a mere illustrative companion to scientific study, as a mere intelligent plaything, it is the most precious gift to all who love to look at the universe as its inner life is revealed to the senses. To all who have done and are doing anything to render it more available for the purposes of study, we are under obligations which it is a pleasure to express, even if it is done as in this slight notice, which was suggested by the pleasure derived from examining the preparations made by Dr. Durkee.

SPASMODIC ASTHMA.

[Concluded from page 313.]

Case III.—A lady above middle age had for several years been the subject of chronic bronchitis, when suddenly, and without any very apparent cause, she was seized with marked symptoms of asthma, and after a short, but severe paroxysm, she found her former symptoms importantly changed. The expectoration was diminished, the cough came on in fits of greater length, and the succession of coughs was more rapid, while the accompanying dyspnœa was so severe as to oblige her to maintain the sitting posture day and night. I need not add, that her face had a livid color and most anxious expression, and that her extremities were apt to become cold. The physical signs corresponded with the general symptoms. The percussion sound was less clear than natural, the respiratory murmur was feeble, and obscured by loud bronchial râles, and during the paroxysms it was entirely absent for a short time. Its return was ushered in by a long stridulous inspiration, and loud sonorous ronchi throughout the chest.

Here then was a case of chronic bronchitis ending in asthma, and there can be no doubt that the glottis was very much affected by the

spasmodic contraction. If anything is wanted to prove this, it is to be found in the nature of the treatment which was successfully employed in combating the disease. For, with the exception of a few blisters to counteract the bronchial inflammation, and some anodyne draughts to procure ease and gain time, the only remedial means used were topical applications of solution of caustic to the glottis. In three weeks the patient was free of all asthmatic tendency, the bronchitis remaining little changed from what it had been for years previously; and it is worthy of remark, though I do not wish to build anything upon it, that no return of the asthma has occurred since the one attack just mentioned, which happened fully two years ago.

Such happy results are by no means always to be looked for, and I am far from wishing to laud the topical applications beyond what they deserve. But I am sure every medical practitioner will bear me out in saying, that the ordinary treatment by bleeding, general or local, by emetics, antispasmodics, opiates, and mercurials internally, with blisters, and various other counter-irritants, externally, has seldom been followed by even a partial success in these cases; and I am sanguine enough to hope that I have even already in this short paper adduced sufficient reasons, both theoretical and practical, for the trial of a more rational plan of treatment.

That plan does not involve a total overthrow of former practices. It is not meant, in adopting the new, to set aside as useless all older measures, but only to employ them when really indicated. For instance, it is, I think, established both by clinical observation, and by Dr. Williams's experiments, that bleeding carried to any length can never diminish the tendency to spasmodic contraction in the air-tubes; but during a bad fit of asthma, such a measure may be absolutely necessary to relieve congestions, arising secondarily, either in the brain, or in the lungs themselves. Again, though emetics cannot save the patient from a renewal of the spasm, they may assist in overcoming that which exists, as well as in clearing away the mucus which clogs up the smaller tubes; and antispasmodics may assist in prolonging their good effects for a short time. In some cases where there is much bronchitis, blisters have a good and more lasting effect, but they do not exercise much influence over the spasmodic asthma. In like manner, a slight mercurialization often benefits the bronchitis of the more sthenic variety, as indicated by the expectoration containing plastic matter, mixed with mucous globules, but it can have no effect on the paroxysmal disease. Opium only lulls for a time—an effect by no means to be lightly esteemed—but when the paroxysm becomes severe it utterly fails.

There is here, therefore, an evident blank in therapeutics. There is no agent hitherto proposed which is capable of removing or greatly diminishing the morbid contractility of the air-tubes. And I think that a solution of caustic applied to the interior of the larynx supplies this defect—fills up the blank. In proof of its having this exhausting effect upon the irritability of the glottis, and ultimately on that of the air-tubes, I can only refer to the results of its use in hooping cough, a disease which is so analogous to spasmodic asthma in its pathology, that it

is almost enough to show the efficacy of a remedy in the treatment of one of those diseases, to prove its suitableness for the other. Now, in proof that the topical treatment of hooping cough is most efficacious and successful, it is enough to state, that, combining the cases treated by me since I first proposed the plan in 1849, with those treated by M. Joubert, of Cherion, and published in the *Bulletin de Therapeutique* for January, 1852, we have as follows:—

A speedy cure (in 10 to 14 days) resulted in - - -	78 cases.
Shortening of disease (3 or 4 weeks' duration), - - -	39 cases.
No change was effected in - - - - - - - - - - -	8 cases.
Total number treated - - - - -	125

There was not one death among all the cases treated, and taking their per centage, we have—

62·4 were cured within a fortnight.
31·2 were cured in 3 or 4 weeks.
6·4 resisted the treatment.

100·0

I feel assured that no similar statement could be made regarding the results of any other method of treating hooping cough.

I cannot, as yet, speak of great numbers of cases of spasmodic asthma treated in this way, but I have been very successful with the topical method in some cases that had previously been treated without much benefit in the ordinary manner. Of these I shall give two examples, and did time and space permit, I could more than double them.

Case IV.—Last summer, Dr. Peter Stewart, of this city, sent me a patient who had come to town to consult him for confirmed bronchial asthma. He had undergone all the ordinary remedies for that disease in the country, including, if I recollect right, a somewhat common, and in my opinion, a barbarous species of counter-irritation when applied to a large surface, viz., croton oil—but all was in vain. His dyspnœa was excessively severe, and occurred frequently during the day, as well as prevented his lying down to rest at night.

I pursued no other treatment but that of a simple tonic to recruit his shattered energies, and the daily application of solution of caustic to the larynx. In about a month's time he was so much better that I advised him to spend a few weeks at the coast, after which he returned home much improved in general health, and comparatively free of the dyspnœa. I recommended him to continue the use of the solution of caustic, applied by himself, as far down his throat as he could reach, and to wear a respirator; and as I have not heard from him since. I believe that these means have been sufficient to keep in check, if not altogether to remove, the remnants of his severe complaint.

Case V.—Another case, at present under my care, and recommended to me by Dr. Smellie, of Buccleuch street, is so similar to the above, that I need not give any particular account of it here. Suffice it to mention, that the paroxysms in this case were very severe, and unmiti-

gated by the kind attention and judicious general treatment of Dr. Smellie; but that a few days ago, when the patient last called on me, he expressed himself as feeling better than he had done for the two previous years. This was after the topical measures had been used for only two or three weeks, and I have no doubt that the improvement will be increased and perpetuated by the treatment being employed for a more lengthened period.

It is well known that heart disease is a frequent concomitant of asthma, and in such cases it is often supposed that the former is the cause of the latter disease; but this is by no means the constant relation of the two morbid states, for the disturbance to the pulmonary circulation, occasioned by frequent asthmatic paroxysms, is quite as likely to produce the heart disease as the reverse. It is, however, more important at present to call attention to the fact of the great difference between simple spasmodic asthma, and that which co-exists with heart disease. The pathology of the former has already been explained as an affection wholly confined to the bronchial tubes. But in cardiac asthma, this is, I may venture to say, never the case. In that disease, the substance of the lung is always more or less altered; generally the air-cells have become much distended, their walls atrophied, and even in some places ruptured; and it is this vesicular emphysema, not spasmodic contraction of any part of the bronchi, which produces the urgent thirst for air so distressingly experienced by these patients. I need hardly remark, that there could be no good object served by introducing solution of caustic into the larynx in such cases. Indeed, I fear it must be confessed that, in the present state of medicine, little more can be done for such patients than to endeavor as far as possible to palliate their most urgent symptoms, and render more tolerable the short and uncertain period which remains for them to live.

There are, besides the topical application to the larynx, two other remedial measures which I have for some time employed in cases of spasmodic asthma, but regarding which I am not at present able to speak with precision. I may, however, mention them in this place, that others may assist in determining whether or not they have any value in the treatment of that formidable disease. The one is electricity, applied, in a gentle current, as much as possible along the course of the larynx and bronchi. In his experiments on the lower animals, Dr. C. J. B. Williams found that such a current destroyed the contractility of the tubes, and in several instances I have thought that it co-operated with other means, in diminishing the frequency and severity of the asthmatic paroxysms. This, however, might be the effect, not only of its local, but of its general action as a tonic on the nervous system. The other agent referred to is strychnia, which I have used in repeated small doses of 1-20th or 1-16th part of a grain, and I believe with good effect in some cases. Dr. Williams found that when the animals he experimented on had been poisoned by this substance, the air-tubes did not exhibit contractility, and he thought that they were retained in a tonic spasm by the operation of the poison. This very probably was the case, but of course the use of strychnia in medicinal doses produces totally dif-

ferent effects on the human system, and the benefit accruing therefrom must have another explanation. Now, I believe that this medicine, in such doses as I have mentioned above, will be found a powerful equalizer of nervous action in the body, and therefore a good means of diverting that action, if I may so speak, from concentrating in any particular organ, such as the bronchi in spasmodic asthma. It is with this view, chiefly, that I look for benefit from the administration of strychnia in these cases, but I prefer stating this as a mere suggestion, and leaving it to future experience to confirm it or set it aside.

In conclusion, I shall now recapitulate in brief terms the chief propositions sought to be established in the preceding pages.

1st. That very many cases of bronchial asthma have their origin in laryngeal disease; that some remain for a variable period, as a spasmodic affection of the glottidean muscles, and that in all cases of the disease in question, although the bronchi have long been affected, the chief contraction still occurs in the larynx.

2d. That if this contraction at the glottis be in any way overcome, that of the smaller bronchi either simultaneously or speedily relaxes.

3d. That the usual remedies employed in cases of spasmodic asthma, are either such as are directed against the complications of the disease, and not against its proximate cause, or such as have been found in practice incapable of accomplishing its removal. The latter are therefore useless, and the former unfit to fulfil the indication referred to above.

4th. But this indication may be answered more or less perfectly in different cases, by the application of a solution of caustic of moderate strength (gr. xv., or ℈j. to ʒj) to the glottis, which is the organ chiefly affected.

5th. Cardiac asthma, as it is called, does not usually depend proximately on simple spasmodic contraction of the bronchial tubes, but rather on vesicular emphysema. Cases of this kind are therefore unfit for topical treatment.

6th, and lastly. Electricity passed in gentle currents, as much as possible along the bronchial tubes, may be found to diminish their contractility; and repeated small doses of strychnia may likewise co-operate with the other means of treatment, probably by withdrawing the nervous energy to other parts, at a distance from the affected air-tubes.—*Glasgow Medical Journal.*

THE BOSTON MEDICAL AND SURGICAL JOURNAL.

BOSTON, MAY 25, 1853.

"*The Order of Hippocrates.*"—A singular paper, by Albert W. Ely, M.D., of New Orleans, on the subject of the formation of a secret medical association, is a leading article in the May number of the New Orleans Medical and Surgical Journal. The sum and substance of the communication is, that the regular profession is so poorly protected against the designs of unprincipled practitioners, that a secret society is necessary, into

which the very worthiest only of the faculty should be initiated. Signs and passes are to be made use of, so that the members may know each other, whenever they meet. Dr. Ely would have the Society "something like the Masonic order, or the order of Odd Fellows." He thus elaborates his scheme:—"We mean to say, that the great interests of the science of medicine require the establishment of a great medical order, having one great head, to which all others shall be subordinate. We have chosen to give this order a name—that of the *Order of Hippocrates;* but some other might perhaps be better. Our idea of the organization of this great order is as follows: it should consist of divisions, called subordinate colleges, deriving their charters from one *grand college* for the whole United States, holding its sessions quarterly, or semi-annually, in some central point of the union. The form and ceremonies of initiation should be of the most solemn and imposing character, accompanied with oaths or obligations binding the initiated to sustain the interests of the order." He goes on to describe it more fully, till a plan is set forth, than which, as a whole, one more ridiculous was never suggested, or one better calculated for utterly destroying the respectability which belongs to the faculty. An institution organized with the avowed object of keeping medical secrets, and aggrandizing individuals, who of course would be "most noble," "right worshipful," or "puissant" physicians, in the lodge of free and accepted M.D.'s, would be the laughing stock of the nation, and a by-word for street idlers. The creation of a central college, on which fifty-five others would be dependent for their existence, would not be in harmony with our republican doctrines, though all of a piece with the signs, grips and passes of the proposed grand "order." A fundamental principle with all medical institutions of this country, is that which disclaims all unnecessary concealment or mystery. Yet, a member of our profession, in full fellowship, acknowledging the code of ethics interwoven with the constitutional frame work of medical associations every where, actually proposes an organization whose members are bound to secresy, and among whom would soon grow up, unchecked, abuses more flagrant than any characterizing the various phases of quackery throughout the land. Another consideration may be alluded to. In Massachusetts, extra-judicial oaths are forbidden by law, and are therefore closely looked after by the grand jury. How these affairs are conducted in other States, we do not know. That they are untramelled by legislative action, in that respect, is possible; but that would not prevent the unpopularity of a secret conclave of medical men whose meetings were expressly for the benevolent purpose of raising themselves on the ruin of others! Democratic principles are too thoroughly inculcated in our ranks and throughout the community to tolerate the "Order of Hippocrates;" and we think therefore that Dr. Ely will never live to witness in actual operation his proposed remedy for the evils that threaten the respectability of the ancient and honorable profession of medicine.

Medical Testimony.—Mortifying results have followed, in several courts of law in Massachusetts of late, in regard to the influence of medical testimony. Gentlemen of the best professional attainments have stated facts, as well as given their opinions, on the stand, neither of which have had any more weight with a jury than the prattling of a child. There is an evident disposition to underrate the experience of practitioners, and when it is brought forward, as in the famous arm trial at Lowell, a few weeks

since, science, in its highest sense, relating as it did, on that occasion, to the laws of life, is lighter than a feather in the scales of justice. Perhaps this low estimate of medical learning has grown out of an impression that there is no essential difference between the flood of quacks who flourish throughout the land, and the thoroughly trained medical student. Something has weakened the public confidence in the profession, and no other cause more probable than this can be suggested. It is ridiculous to pretend, as a reason, that physicians are monopolists, or that they have interests to protect, oppressive or injurious to the people. They only ask not to have their acts misrepresented or their motives impugned.

Massachusetts Medical Society.—To-day the anniversary meeting is held in this city. Some of the prominent transactions of the meeting will be noticed hereafter. The counsellors for the year are to be chosen, a discourse delivered, and the fellows will then dine together in Faneuil Hall. To-morrow the new board of counsellors elect the president and other executive officers. Medical strangers in the city will be cordially received. The business affairs of the Society will be attended to at the Hall of the Lowell Institute, instead of Cochituate Hall.

Vision Restorator.—A novel instrument has been patented, and is on sale, for elongating the axis of vision. It consists of a beautifully wrought wooden cup, that fits over the eye, attached to which is a small hollow India rubber ball, communicating by a tube with the cup. By pressing the ball, the air is excluded, and then adjusting the cup, and letting go of the ball, the air in the former is exhausted. The fluids in the chambers consequently expanding, the cornea is made more convex by the outward pressure from within towards the vacuum. Thus the convexity of the eye, in an aged person, for example, is instantly restored to the condition of youth, and objects can be seen without the assistance of convex glasses, and at a convenient distance. Large sums of money have been made within a year or two in producing this same result by manipulating the eyes, the operator compressing them with his fingers, and gradually producing a little increase of convexity. Immediately after, the individual is conscious of being able to read without further artificial assistance, and in the enthusiasm of the moment conceives himself permanently benefited. This, however, is a fallacy, for the vessels, made turgid by friction and the compression of the recti muscles, soon return to their normal condition, and vision is precisely what it was before. The vision restorator accomplishes this temporary distinctness of sight more readily and elegantly than by the means mentioned, and far more economically. Now comes the question, is this instrument useful or injurious? Accompanying it, besides several recommendatory certificates from persons entirely unqualified to give an opinion, are directions for guiding the purchaser. We strongly urge upon our medical friends to be cautious in applying these cups, since there is, in our opinion, more probability of injuring than benefiting those who may seek relief by their means.

Medical Coroner.—At the suggestion of eminent medical gentlemen, Charles H. Stedman, M.D., of Boston, has been appointed a coroner. A more suitable person could not have been found. It is very compliment-

ary to Dr. S. to have been selected, without solicitation, by his professional brethren. Repeated efforts have been made, heretofore, to persuade the Governor of the State to place physicians in that office, as is customary in Europe, but unsuccessfully. No class of citizens can be so thoroughly qualified for researches into the causes of death, as they are, and this is a sufficient reason for giving them the preference. An impression exists that the Attorney General will issue an order requiring that bodies brought before inquests shall be examined, and that Dr. Stedman will hereafter exclusively attend to that essential service in this county. We congratulate both Dr. Stedman and the public on this excellent appointment.

Norfolk District Medical Society.—This Society held its annual meeting at Dedham, on Wednesday, the 18th inst., and elected the following officers:—

Dr. Ebenezer Alden, of Randolph, *President.* Dr. Appleton Howe, of Weymouth, *Vice President.* Dr. Edward Jarvis, of Dorchester, *Secretary.* Dr. Danforth P. Wight, of Dedham, *Treasurer.* Dr. Lemuel Dickerman, of Medfield, *Librarian.* Drs. Erasmus D. Miller, of Dorchester, Theophilus E. Wood, of East Randolph, *Committee of Supervision.* Drs. Ebenezer Stone, of Walpole; Henry Bartlett, of Roxbury; Benjamin Mann, of Roxbury; Simeon Tucker, of Stoughton; Stephen Salisbury, of Brookline, *Censors.* Drs. Simeon Tucker, of Stoughton; Henry Bartlett, of Roxbury; Ebenezer Woodward, of Quincy; Jonathan Ware, of Milton; Erasmus D. Miller, of Dorchester; Benjamin Mann, of Roxbury; Benjamin E. Cotting, of Roxbury; Danforth P. Wight, of Dedham; Edward Jarvis, of Dorchester, *Counsellors.*

The President, Dr. Alden, read a very learned and elaborate discourse, giving the history or notice of all the former and deceased physicians of the county. The Society voted to print this address for the use of the members and for distribution. It will form a very valuable addition to our medical history.

The Society voted to have a general discussion of the prevailing diseases of the autumn at the next semi-annual meeting in November. They have had similar discussions at the previous meetings in the autumn, and these have elicited much that was profitable and satisfactory to the members of the association.

To Correspondents.—Dr. North's account of the late meeting in New York; Dr. Stradley on Boring the Cranium; and a notice of the meeting in Baltimore, of the Superintendents of Lunatic Asylums, have been received.

Married,—J. F. Dyer, M.D., of Annisquam, Mass., to Miss M. T. French.

Died,—In North Adams, Mass., Dr. Thomas Taylor, 46.—Dr. Wm. Beaumont, a distinguished physician, of St. Louis, who was a surgeon in the army during the war of 1812, died a few days ago.

Deaths in Boston for the week ending Saturday noon, May 21st, 74. Males, 40—females, 34. Accidents, 2—asthma, 1—inflammation of the bowels, 1—disease of the bladder, 1—inflammation of the brain, 2—disease of the brain, 1—consumption, 9—convulsions, 6—croup, 2—dysentery, 1—dropsy, 1—dropsy in head, 3—drowned, 2—debility, 1—infantile diseases, 7—scarlet fever, 7—hooping cough, 2—disease of heart, 1—intemperance, 1—inflammation of the lungs, 7—marasmus, 1—measles, 3—old age, 1—palsy, 1—rheumatism, 1—sun stroke, 1—teething, 2—unknown, 2—worms, 2—disease of the bowels, 2.

Under 5 years, 37—between 5 and 20 years, 3—between 20 and 40 years, 11—between 40 and 60 years, 14—over 60 years, 4. Born in the United States, 54—Ireland, 13—England, 4—British Provinces, 3. The above includes 10 deaths in the city institutions.

Tetanic Symptoms from the Use of Iodide of Potassium. By D. P. PHILLIPS, M.D., Passed Assistant Surgeon, U. S. N.—A case of some singularity having occurred under my own observation, and thinking that it might not be devoid of interest to you, I have concluded briefly to give its history.•

Whilst Acting Surgeon of the U. S. Ship Massachusetts, a fireman, named J. White, was admitted upon my sick list with rheumatism. I ordered the administration of iodide of potassium, grs. viii. ter in die, to be taken before meals in a spoonful of water. Soon after commencing with the remedy (probably the second day) he complained of some uneasiness and stiffness in the jaws; but supposing it to be some trivial affair, I paid but little attention to it. On the next day the difficulty had increased, and I directed frictions with some stimulating liniment; but when I saw him the day after, the jaws were immoveable. Upon careful inquiry, I ascertained that ever since he had been using the iodide he had experienced a burning and uneasy sensation in the œsophagus and stomach. Upon learning this, I discontinued the medicine, and ordered counter-irritation over the stomach. In a few days the tetanic symptoms entirely disappeared, and the iodide of potassium was renewed, but diluted in a tumbler half full of water, and given *after* each meal. The patient entirely recovered from rheumatism, and had no return of the trismus. I attributed the unusual symptoms entirely to the use of iodide of potassium in too concentrated a form.—*Philad. Medical Examiner.*

Medical Students on the Sabbath.—"An exchange paper states that sixty students in the medical department of the University of Louisville, Ky., are to be seen every Sabbath morning in the Sabbath School of the Chesnut street Presbyterian Church, diligently engaged in the study of the Holy Scriptures, under the instruction of Drs. Yandell and Silliman, two of the University Professors."

To our mind, the above simple announcement speaks volumes in favor of the young gentlemen referred to. We shall fear nothing for the science of medicine when it is in the hands of competent men, of established Christian principles. As a rule, it is not they who are "carried about by every wind" of medical doctrine.—*New Jersey Med. Reporter.*

Buffalo Hospital of the Sisters of Charity.—This hospital has been enlarged by the addition of a wing, which will increase its capacity by nearly one-third. The new wards are now ready for occupancy. Vacant lots in front and rear have been purchased, securing for the institution grounds sufficiently ample for quiet, pure air, and any future additions which may be required. The bounty of the State has enabled the trustees to make these important improvements, placing the institution on a firmer basis, and augmenting its charitable resources.—*Buffalo Med. Journal.*

Aneurism.—Dr. Pravas of Lyons, has been experimenting with a concentrated solution of the per-chloride of iron, by injecting a few drops into isolated portions of the arteries, with the effect of coagulating the blood. He proposes thus to cure aneurisms. He employs a very finely pointed trocar, introduced into the vessel by a sort of rotary motion, and a syringe the piston of which is worked by a screw. His experiments on inferior animals have been successful.—*New York Med. Gaz.*